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Supervisor, Patent Prosecution Services
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EXAMINER

AMARI, ALESSANDRO V

ART UNIT

PAPER NUMBER

2872

DATE MAILED: 07/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/050,994

Applicant(s)

HUNTER ET AL.

Examiner

Alessandro V. Amari

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>5</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Double Patenting

1. Claims 1, 4 and 5 are directed to the same invention as that of claims 1 and 2 of commonly assigned 10/029875. The issue of priority under 35 U.S.C. 102(g) and possibly 35 U.S.C. 102(f) of this single invention must be resolved.

Since the U.S. Patent and Trademark Office normally will not institute an interference between applications or a patent and an application of common ownership (see MPEP § 2302), the assignee is required to state which entity is the prior inventor of the conflicting subject matter. A terminal disclaimer has no effect in this situation since the basis for refusing more than one patent is priority of invention under 35 U.S.C. 102(f) or (g) and not an extension of monopoly.

Failure to comply with this requirement will result in a holding of abandonment of this application.

2. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

3. Claims 1, 4 and 5 are provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1 and 2 of copending Application No. 10/029875. This

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is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

4. Claims 1, 4 and 5 are provisionally rejected under 35 U.S.C. 102(e) as being anticipated by copending Application No. 10/029875 which has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the copending application, it would constitute prior art under 35 U.S.C. 102(e), if published under 35 U.S.C. 122(b) or patented. This provisional rejection under 35 U.S.C. 102(e) is based upon a presumption of future publication or patenting of the copending application.

This provisional rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the copending application was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131. This rejection may not be overcome by the filing of a terminal disclaimer. See *In re Bartfeld*, 925 F.2d 1450, 17 USPQ2d 1885 (Fed. Cir. 1991).

Claim Objections

5. Claim 10 is objected to because of the following informalities:

Regarding claim 10, the phrase "the reflective surfaces" lacks antecedent basis. Appropriate correction is required.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-10 are rejected under 35 U.S.C. 102(e) as being anticipated by Godil et al U.S. Patent 6,169,624.

In regard to claims 1 and 4, Godil et al disclose (see Figure 3) a reflective light processing element, comprising a substrate (110); a dielectric layer (112) formed on the substrate; a conductive trace (300) formed on the dielectric layer, the conductive trace allowing charges trapped in the dielectric layer to escape; and a plurality of ribbons formed above the substrate and the conductive trace as described in column 3, lines 55-67 and column 4, lines 11-20; and a plurality of ribbons (120, 130) formed above the substrate and the conductive trace as shown in Figure 3.

In regard to claim 5, Godil et al disclose (see Figure 3) a high contrast grating light valve comprising a silicon substrate (110); a protective dielectric layer (112) formed on the substrate; a first set of ribbons (120) each with a first average width W_a and a second set of ribbons (130) each with a second average width W_b , as described in column 2, lines 30-44 wherein the ribbons of the first set alternate between the ribbons of the second set and, one of said first and second set of ribbons is configured to

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constructively and destructively interfere with an incident light source having a wavelength λ as described in column 3, lines 22-47; wherein said substrate comprises a silicon wafer protected by a dielectric layer as described in column 2, lines 44-47; and a conductive trace (300) formed at least partly on the protective layer and in electrical contact with said substrate, allowing charges trapped in the protective layer to escape as described in column 3, lines 55-67 and column 4, lines 11-20.

Regarding claim 2, Godil et al disclose that said trapped charges are present at least on the surface of the dielectric layer as described in column 3, lines 55-67 and column 4, lines 1-20.

Regarding claim 3, Godil et al disclose that said trapped charges are formed, with respect to the dielectric layer, during operation of said reflective light processing element as described in column 3, lines 55-67 and column 4, lines 1-20.

Regarding claim 6, Godil et al discloses that said dielectric layer comprises silicon dioxide as described in column 2, lines 45-47.

Regarding claim 7, Godil et al discloses that said conductive trace is comprised of aluminum as described in column 3, lines 57-59.

Regarding claim 8, Godil et al discloses that the width $W_a \geq W_b$ as described in column 2, lines 30-46.

Regarding claim 9, Godil et al discloses that the top surfaces of the ribbons in said first set and the top surfaces of the ribbons in said second set and regions of the surface between the ribbons of the first set and second set have reflective surfaces as described in column 2, lines 31-44.

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Regarding claim 10, Godil et al disclose that the reflective surfaces comprise aluminum as described in column 2, lines 49-52.

8. Claims 1-8 and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Hawkins et al U.S. Patent 6,233,087.

In regard to claims 1 and 4, Hawkins et al disclose (see Figures 1 and 2) a reflective light processing element, comprising a substrate (52); a dielectric layer (58) formed on the substrate; a conductive trace (60, 62, 64) formed on the dielectric layer, the conductive trace allowing charges trapped in the dielectric layer to escape as described in column 5, lines 41-60 and column 6, lines 15-50; and a plurality of ribbons (72a, 72b) formed above the substrate and the conductive trace as shown in Figure 2.

In regard to claim 5, Hawkins et al disclose (see Figures 1, 2 and 6) a high contrast grating light valve comprising a silicon substrate as described in column 4, lines 63-65; a protective dielectric layer (58) formed on the substrate; a first set of ribbons (72a) each with a first average width W_a and a second set of ribbons (72b) each with a second average width W_b , wherein the ribbons of the first set alternate between the ribbons of the second set and one of said first and second set of ribbons is configured to constructively and destructively interfere with an incident light source having a wavelength X ; wherein said substrate comprises a silicon wafer protected by a dielectric layer as shown in Figures 1 and 2; and a conductive trace (60, 62, 64) formed at least partly on the protective layer and in electrical contact with said substrate, allowing charges trapped in the protective layer to escape as described in column 5, lines 41-60 and column 6, lines 15-50.

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Regarding claim 2, Hawkins et al disclose that said trapped charges are present at least on the surface of the dielectric layer as described in column 5, lines 41-60 and column 6, lines 15-50.

Regarding claim 3, Hawkins et al disclose that said trapped charges are formed, with respect to the dielectric layer, during operation of said reflective light processing element as described in column 5, lines 41-67 and column 6, lines 1-50.

Regarding claim 6, Hawkins et al disclose that said dielectric layer comprises silicon dioxide as described in column 7, lines 50-60.

Regarding claim 7, Hawkins et al disclose that said conductive trace is comprised of aluminum as described in column 6, lines 8-10.

Regarding claim 8, Hawkins et al disclose that the width $W_a \geq W_b$ as shown in Figures 1 and 2.

Regarding claim 10, Hawkins et al disclose that the reflective surfaces comprise aluminum as described in column 8, lines 30-33.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hawkins et al U.S. Patent 6,233,087 in view of Bloom et al U.S. Patent 5,311,360.

Regarding claim 9, Hawkins et al teaches the invention as set forth above that the top surfaces of the ribbons in said first set and the top surfaces of the ribbons in said second set have reflective surfaces as described in column 8, lines 16-33 and as shown in Figures 1, 2 and 6.

However, Hawkins et al does not teach that the surface between the ribbons of the first set and second set has reflective surfaces.

Bloom et al does teach that the surface between the ribbons of the first set and second set has reflective surfaces as described in column 5, lines 53-56.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to ensure that the surface between the ribbons of the first set and second set is reflective as taught by Bloom et al for the device of Hawkins et al in order to enhance the reflectance of the surface area so as to improve the performance of the grating light valve.


11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alessandro V. Amari whose telephone number is (703) 306-0533. The examiner can normally be reached on Monday-Friday 8:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on (703) 305-0024. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

ava *av*
July 11, 2003


MARK A. ROBINSON
PRIMARY EXAMINER